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SUMMARY REPORT: VISITOR SAFETY AND SECURITY AT CORPS OF
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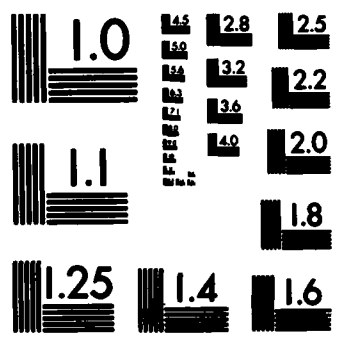
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SUMMARY REPORT: VISITOR SAFETY AND SECURITY AT CORPS OF ENGINEERS PROJECTS

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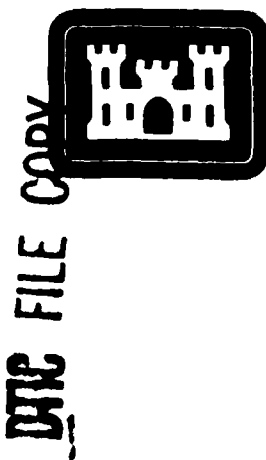
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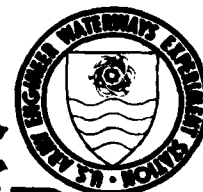


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Prepared for
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) → Limitations on manpower and authority have required the Corps of Engineers to investigate alternative measures for providing a safe and secure environment for Corps project visitors. This report provides a summary of recommended planning, design, and management techniques that will provide increased visitor safety and security at Corps projects. ←		

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PREFACE

This research effort was initiated during September 1979 under Contract No. DACW39-79-C-0080 between Gage-Babcock & Associates, Inc. (GBA), Vienna, Va., and the U. S. Army Engineer Waterways Experiment Station (WES), Vicksburg, Miss. The primary purpose of the study was to identify, evaluate, and develop alternative visitor security and safety techniques that did not rely on traditional law enforcement and physical security methods. Further, the techniques would not require exceptional levels of funding or additional personnel.

Four major products were generated from this research effort:

- a. A Summary Report describing study procedures and major findings and recommendations.
- b. A Handbook that provides detailed guidelines for planning, design, and management techniques.
- c. A Slide-Tape Program that presents visitor security and safety issues and techniques.
- d. A Report describing the effectiveness of selected visitor security techniques (to be produced at the completion of the demonstration phase of this project).

The study reported herein comprises the Summary Report (a above) and was written by Mr. R. Scott Jackson, Environmental Laboratory (EL), WES. This report was summarized from a report prepared by GBA. Primary authors of the GBA report were Messrs. John J. Strauchs and Stephen S. Brown. Other GBA personnel who participated in the study were Messrs. Bert M. Cohn and Frederick C. Bradley.

During conduct of this study, Mr. William J. Hansen was Chief, Resource Analysis Group, EL, WES. Dr. Adolph J. Anderson was Manager of the Recreation Research Program. The study was supervised by Dr. Conrad J. Kirby, Chief, Environmental Resources Division, EL, and Dr. John Harrison, Chief, EL.

Commanders and Directors of WES during this study were COL John L. Cannon, CE, COL Nelson P. Conover, CE, and COL Tilford C. Creel, CE. Technical Director was Mr. F. R. Brown.

This report should be cited as follows:

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CONCLUSIONS AND RECOMMENDATIONS

The primary objective of the research effort reported herein was to evaluate, identify, and develop alternative visitor safety and security techniques which did not rely on traditional law enforcement and physical security methods. Further, the techniques should not require an exceptional allocation of funding or additional personnel. Conclusions and recommendations of the study are summarized below.

Corps-Wide Policies and Issues

Conclusions

- The Corps has never received a clear mandate for enforcing laws associated with the protection of visitors or visitors' property. Were the Corps to be given some form of broad statutory authority to enforce laws, it is unlikely that it could achieve the necessary levels of staffing and attendant funding, unless the funding were simultaneously authorized by Congress. At present, funding is unlikely.
- The prospect of the Corps divesting itself of much of its public recreation responsibilities is highly improbable; local government and other agencies are unlikely to accept the responsibility and the commensurate costs.
- The Corps presently lacks the funds, authority, and personnel to meet minimal visitor protection requirements. Many Corps recreational areas are deteriorating. Design and management changes alone are unlikely to meet visitor protection shortcomings; they would merely make other measures more efficient.

Recommendations

- The Corps should begin to formulate several alternatives for visitor protection and not rely on any single strategy.
- The Corps should try to reestablish its authority to meet new recreation area construction requirements. At the very minimum,

this authority must include provisions for improving visitor overflow areas.

- Without additional funding and authority, the Corps' only viable alternative is to close some recreation areas in order to meet minimal visitor protection requirements at popular recreation areas.

Crime Incident Reporting

Conclusions

- Evidence indicates that the Corps does not experience a significant rate of serious crime; however, the frequency of lesser crimes creates a major problem in the management and administration of resource areas on the basis of existing levels of staffing and funding.
- The majority of crimes that occur on Corps projects are either never reported or are not recorded in a retrievable manner. Incident reporting is incomplete, inaccurate, and random; the Corps, in general, receives a distorted view of the actual crime picture.

Recommendation

- An aggressive formal management program should be initiated to ensure crime incident data are collected, reported, and analyzed in a manner that supports and identifies present and future visitor protection requirements and shows how visitor protection resources may be most effectively utilized.

Management Recommendations

- Effective and reliable reporting, record keeping, and cost-accounting practices should be established.
- An effective public information program is needed.

- Corps rangers should be visible and accessible, especially during periods when incident rates are high, which includes weekends and late evening hours.
- A means for visitors to communicate with sources of assistance during emergencies should be provided.
- The anonymity, or sense of anonymity, of visitors should be limited.

Design and Planning Recommendations

- Layouts that create confrontations between conflicting recreational goals should be avoided.
- Access and movement should be controlled by minimizing entry points, limiting free circulation, and maximizing retreat distances for criminals.
- Intervisibility, the sense of a community, as well as a personal sense of territory (psychological demarcation) should be emphasized in all unit and park designs.
- Designs, materials, and dimensions should be standardized.
- Vandal- and breakage-resistant designs should be used.

Title 36 Recommendation

- As the primary intent of the Title 36 focuses on the protection of government property, the Corps should consider broadening the scope of its regulatory authority to include a wider range of visitor protection issues.

Visitor Perceptions Conclusions

- Seventeen percent of the respondents to a survey of visitors to Sumerville Lake, Texas, indicated they had personal knowledge of crime(s).

- More than one half of the incidents identified by visitors occurred in day-use, nonfee areas.
- Only 22 percent of visitors knew that Corps rangers do not have the same authority as police officers. Eighty-nine percent indicated that they felt more comfortable when there was an occasional appearance of a uniformed ranger. However, 51 percent stated that they had not seen a uniformed ranger during their stay, the average length of stay being 3.3 days.

Contract Law Enforcement Conclusions

- The Corps' contract law enforcement program is extremely fragile in terms of funding. Because of past ill will, it is likely that some local enforcement agencies will not accept a contract without substantive guarantees of stability. Corps-wide planning and standard costing formulas and contracting procedures should be developed as soon as possible.
- There was no indication that crime-related criteria dictated decisionmaking as to which projects entered into law enforcement contracts and which did not. No uniformity in selection criteria between Corps Districts was apparent. The lack of Corps-wide planning contributed to very uneven, and perhaps wasteful, costing for contract services.
- Significant variance was noted in costing and financing law enforcement contract services.
- Some contingency planning must be initiated in the event that funding is cut off in some future year.

Crime Prevention Techniques

- The following are the most useful and essential crime prevention techniques currently practiced:

<u>Technique</u>	<u>Comment</u>
Charge fees	Consistent with legal and policy constraints, charge the maximum fee at as many (ideally, all) parks as practical.
Have employee resident custodians/caretakers	Situate the residence/booth at locations where they can provide supervision and surveillance over as many use areas as possible.
Prohibit public display and consumption of alcoholic beverages	Get the cooperation of local government to prohibit the public display and consumption of alcoholic beverages.
Use contract law enforcement	Initiate law enforcement contracts whenever possible. Provide intensive initial orientation with provider agency to ensure familiarity with Corps procedures and regulations. Maintain rigorous reporting requirements on incidents and contractor activities.

SUMMARY REPORT: VISITOR SAFETY AND SECURITY AT
CORPS OF ENGINEERS PROJECTS

PART I: STUDY TASKS

Problem Statement

1. For more than 30 years, the U. S. Army Corps of Engineers has participated in the nationwide development of public, water-based recreational facilities at Corps reservoirs. As its involvement in providing recreational facilities has grown, so too has the problem of crime at these areas. The growth of public visitation has been dramatic; currently, the Corps records one of the largest recreation programs of any Federal agency. In 1980, more than 450 million recreation days were recorded at Corps sites. Congestion at some recreation areas and lack of both funds and authority to open new sites have hampered efforts to manage these areas and to control the resulting increase in incidents.

2. Corps of Engineers rangers and managers have had to cope with many substantial obstacles in meeting visitor safety and security requirements. Research on crime problems still lags far behind the problem itself. Moreover, the Corps has been compelled to manage crime problems with the same, or fewer, resources than it had before these problems came to the attention of the nation and its legislators. Contract law enforcement has alleviated some of the problems related to authority, but budgetary and legislative constraints have also limited the effectiveness of this technique. There have been lapses in the continuity of the contract law enforcement program. For example, in 1980, Congress failed to pass legislation to authorize contract law enforcement; consequently, there was no contract law enforcement during the 1980 summer season.

3. Another significant problem that contributes to crime at recreational areas is that many of the facilities were built at a time when either crime was not significant or crime awareness was too limited for the problem to be recognized. It is evident that many crime problems,

especially vandalism, are aggravated at these older sites by poor layout and design.

4. The ideal of "maximum visitor freedom" has not diminished, but the Corps has recognized the need to develop alternative approaches to traditional law enforcement and security practices, techniques, and policies. This realization led directly to the authorization for this report.

5. In summary, the Corps was interested in seeking techniques for visitor safety and security that:

- a. Did not require additional resources.
- b. Did not require additional law enforcement authority for Corps personnel.
- c. Did not require undue restrictions of individual freedoms of visitors.
- d. Did not rely primarily on traditional law enforcement.

Study Objectives

6. The primary goal of this research effort was to identify and evaluate existing alternatives to traditional law enforcement by Corps personnel and physical security techniques. The intermediate objectives to be accomplished in attaining the primary goal are summarized below:

- a. Identify the nature and scope of the visitor safety and security problems at Corps water resource development projects.
- b. Identify and evaluate planning, design, and management techniques that may be applied in the resolution of visitor safety and security problems.
- c. Develop implementation criteria and procedures for selected visitor safety and security techniques.
- d. Determine the effects of other related factors on present and proposed visitor safety and security practices.
- e. Based on study efforts, identify one Corps project suitable for the demonstration and monitoring of selected visitor safety and security techniques.

7. It was determined early in the study that a meaningful crime incident data base could not be established. Events were often not recorded in Corps records or by local law enforcement agencies. What was

available was collected and analyzed, and certain trends and general observations were made.

Research Methodology

Study site selection

8. The criteria used to select the six study sites, which would be surveyed for this research effort, included: past incident reports, citations issued, arrests and convictions, type of existing law enforcement programs, geographic distribution among Corps Divisions, physical size, demographic factors, and available facilities. Based on these criteria, the following sites were selected (see Figure 1):

1. West Point Lake, Georgia (Mobile District, South Atlantic Division)
2. Somerville Lake, Texas (Fort Worth District, Southwestern Division)
3. New Hogan Lake, California (Sacramento District, South Pacific Division)
4. Nolin Lake, Kentucky (Louisville District, Ohio River Division)
5. Milford Lake, Kansas (Kansas City District, Missouri River Division)
6. Saylorville Lake, Iowa (Rock Island District, North Central Division)

Interviews and record reviews

9. In an effort to obtain information on visitor safety, security incidents, and vandalism, the following records were reviewed at the six study sites: ranger duty logs, incident reports, maintenance records, and contract law enforcement activity reports.

10. Interviews were conducted with project resource management staff and local law enforcement officials to determine more detailed information on major incidents.

11. Based on this review, a descriptive profile was developed for each incident that identifies potential contributing factors, including the following: location, terrain characteristics, vegetation type,

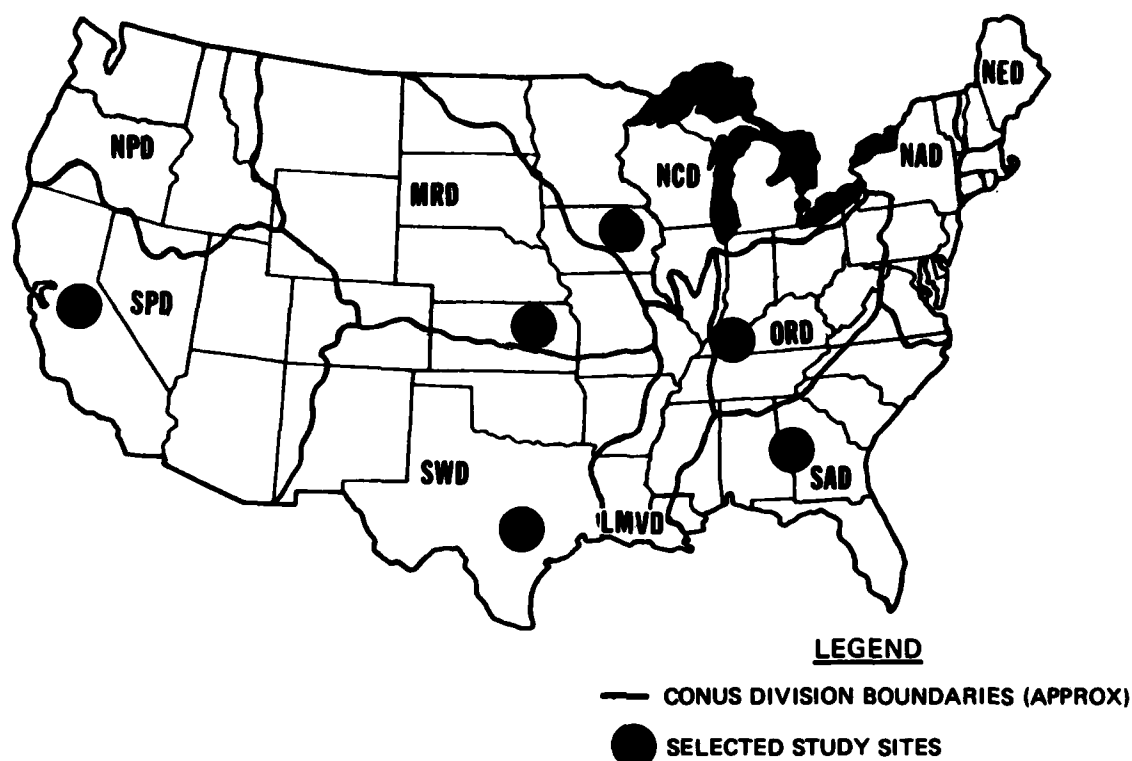


Figure 1. Location of study sites

condition of facilities, proximity to roads, type of activity area, and site layout.

Site investigation

12. Site investigations were conducted at selected locations on each study site to further identify physical factors that contribute to safety and security problems. Both areas with a history of low incident rates and "trouble spots" were inspected. Through these investigations, previously identified factors that contribute to incidents were verified.

13. Because of the critical need for this type of information, a very limited survey of visitors was conducted at Somerville Lake, Texas. Six hundred and twenty-nine interviews were conducted at the Lake from May through August 1980. The results of this survey are summarized in the next part of this report.

Crime and Incident Data Base Development

14. A persistent problem the Corps has been unable to cope with is the assessment of the level of crime at Corps water resource projects. To date, reliable crime and incident data bases are not available within the Corps of Engineers system. This conclusion was reported in the 1974 PRC report* and is still true today.

15. While data limitation ultimately precluded the development of a reliable data base for this study, certain measures were taken to attempt to develop a data base for one facility. It was hoped that a complete crime and incident record could be developed for Somerville Lake, Texas, the study's demonstration site. The resulting patterns and statistics could then be interpreted for an indication of potential levels of crime in other parts of the country. This expectation was not realized. A meaningful data base could not be developed at Somerville Lake--records were too incomplete.

16. Two field surveys were conducted at Somerville Lake. On each occasion, interviews were conducted with Corps personnel, local law enforcement officers, visitors, and State officials. Records maintained at the Corps project office were reviewed. When criminal events were identified, the location was plotted on maps and all details were recorded.

17. Although local sheriffs and police chiefs had indicated that they would try to set aside records on incidents at the Lake, shortages in personnel and informal record keeping systems prevented their full cooperation.

* PRC Public Management Services, Inc. 1974. "A Study of the Law Enforcement Needs and Means of Providing Visitor Protection at Corps of Engineer Lakes," prepared for U. S. Army Corps of Engineers.

PART II: VISITOR PERCEPTION SURVEY

Objectives

18. From May through August 1980, 629 interviews were conducted with visitors at Somerville Lake. The purposes of the survey were to: (a) identify unreported incidents, (b) determine the effect of safety and security considerations on visitor use patterns, (c) identify visitor attitudes and perceptions relating to various visitor security issues, and (d) identify baseline conditions at several recreation areas on the project.

Procedure

19. Visitors were interviewed at all five Corps-managed recreation areas and two Texas State parks located on the project. A two-page questionnaire was administered to a randomly selected individual from each user group. Each recreation area was sampled during randomly selected time periods. An attempt was made to sample all user groups on the recreation area during that time period.

20. In addition, detailed information was collected and analyzed for each incident reported at Lake Somerville during the survey period.

Findings

21. The following paragraphs summarize the most important findings of the visitor survey.

Site selection factors

22. About 80 percent of the visitors indicated that access to the lake was their most important reason for selecting a site. Secondary reasons (some respondents cited more than one reason) were:

<u>Reason</u>	<u>Percent of Respondents</u>
Shade	56
Scenery or view	42
Privacy	29
Convenience to restrooms	28
Personal safety and security	27
Security of possessions	18

Perceptions of crime

23. About 78 percent of respondents, a significant majority, did not perceive crime to be a problem at Lake Somerville; only 22 percent thought that it was a problem. Of those who believed that crime was a problem, the specific crimes they identified were (several respondents identified more than one type of crime):

<u>Problem</u>	<u>Percent of Respondents</u>
Disturbing the peace	51
Theft	13
Vandalism	13
Sexual indecency	7
Sexual assault	3.5
Littering	3.5
"Hold-up"	1
Assault	1
Other	7

Experience as a crime victim

24. About 83 percent of persons interviewed indicated that they had never personally experienced crime at Lake Somerville. Of the 17 percent who indicated some experience (directly or indirectly), the responses were as follows:

<u>Crime</u>	<u>Frequency</u>	<u>Percent</u>
Disturbing the peace (misdemeanor)	79	68
Theft	12	10
Sexual indecency	11	9
Vandalism	8	7
Assault	3	2.5
Sexual assault	3	2.5
Hold-up	1	1
TOTAL	117	100

25. More than one half of the incidents reported occurred at day-use, nonfee recreational areas. The relative rankings are also of interest. It must be recognized that, because of the low numbers of incidents reported, misleading responses could bias the absolute percentages.

Perceptions of site security

26. The survey identified 15 different types of site locations, such as distance from lakeshore, nearness to roads, density of vegetation, degrees of being hidden, and location on road loops. Visitors were asked to rate each location as to their perception of the site being safe, ranking from very safe to very unsafe. A rank ordering (safest site first) of the four locations perceived to be the safest is given below:

- a. A site near the lakeshore.
- b. A site with other campsites partly or wholly visible from your site.
- c. A site with only a few trees or bushes between your site and other sites.
- d. A site on top of a hill.

27. The rank ordering of the sites perceived to be the least safe is as follows:

- a. A site hidden away from other sites; a site with deep woods to the rear.

- b. A site with a second road to the rear; a site near the road.
- c. A site that has other campsites hidden from view.

28. In comparing pairs of variables, a very strong relationship was identified between the sex of the visitor and the perceptions of safety. A far greater percentage of female respondents felt that a site hidden from view was unsafe. Other conclusions that can be drawn include that secure sites are characterized by intervisibility in all instances. Unsafe sites tend to be perceived as those that are secluded or hidden, or very close to points of either overt or covert access.

Unreported crime

29. Of the 17 percent of the visitors who indicated they had personal experience with crime at Somerville Lake, only 33 percent indicated that they had reported the incident. To put this in its proper perspective, however, of the 67 percent of the crime incidents that were not reported, about 68 percent of the unreported incidents were "disturbing the peace."

Areas avoided by visitors

30. When asked whether there were any parks or recreation areas that they would avoid at Somerville Lake because of crime or rowdy behavior, only 12 percent of the visitors surveyed indicated that there were such areas. Of the 12 percent who indicated areas they would avoid, approximately 90 percent of the areas specifically identified were day-use, nonfee Corps-managed recreation areas.

Comparisons between Corps and State areas

31. About 28 percent of the respondents indicated that Texas State parks were either more safe or much more safe than Corps recreation areas. Sixty percent of the respondents had no opinion. Approximately 11 percent thought that State parks were either more unsafe or much more unsafe. When respondents that thought the State parks were more safe were asked for specific reasons, about 39 percent of the visitors indicated that they believed that State parks were better patrolled. Eleven percent stated that State parks were safer because there was more control.

Corps ranger authority

32. Visitors were surveyed as to whether they thought that Corps of Engineers rangers had the same authority as a police officer, namely whether a ranger could arrest people who break the law. About 42 percent of the respondents indicated that they believed that rangers did have the same authority; 36 percent were uncertain. Only 22 percent of the visitors thought that the ranger did not have the same authority. Thus, about 78 percent of all respondents either incorrectly thought that rangers had the same authority, or were not certain. It may be significant that at nonfee, day-use areas, where rates of incidents are very much higher than in overnight, fee areas, visitors were significantly more correct in their perceptions of a ranger's authority.

Visibility of rangers or police

33. About 67 percent of the visitors stayed more than 1 day at the recreational areas. On the basis of the survey, the mean length of stay was 3.3 days, the median stay was 2.1 days. Keeping these figures in mind, about 47 percent of the respondents indicated that they had seen either a uniformed ranger or a law enforcement officer during their stay. Approximately 2 percent were not certain. Fifty-one percent stated they had not seen a uniformed ranger or law enforcement officer during their stay.

Perceptions of security resulting by presence of authority

34. Visitors were queried whether the occasional appearance of a uniformed ranger or law enforcement officer made them feel more safe and secure or less safe and secure in parks and recreational areas. About 89 percent of the respondents indicated that they felt either much more safe or more safe. Approximately 3 percent stated that they either felt more unsafe or much more unsafe. Eight percent had no opinion. It may be possible to interpret the 3 percent response as a "protest vote" against the presence of authority figures.

Effect of authority on the recreational experience

35. The survey asked visitors if the occasional appearance of a

uniformed ranger or law enforcement officer made them feel uncomfortable or uneasy. Approximately 72 percent indicated that they felt either more comfortable or somewhat more comfortable. About 25 percent stated that they felt more uncomfortable or somewhat more uncomfortable. Only 4 percent had no opinion.*

Familiarity with rules

36. Eighty-one percent of the respondents indicated they were familiar with rules and regulations. About 13 percent were not familiar, and 6 percent were undecided.

Rule enforcement

37. When asked the general question of whether rules and regulations should be more or less strictly enforced at Corps of Engineers recreational areas, 30 percent indicated that rules should be more strictly enforced. About 62 percent thought that enforcement should remain unchanged. Only 2 percent believed that rules should be less strictly enforced, and 6 percent had no opinion.

38. Visitors were then asked about the enforcement of specific rules; the option of "remain the same" was not given. The following responses were given:

<u>Rules</u>	<u>Percent</u>		
	<u>More</u>	<u>Less</u>	<u>No Opinion</u>
Vehicles confined to designated roads only	61	15	24
Camping in designated areas only	54	20	27
No loose pets	52	22	26
Fires in barbeque grills only	42	34	24

39. The final question of the survey asked visitors who they would attempt to contact first in the event that they needed emergency assistance as a result of an accident or crime problem. The following responses were given:

* Due to rounding, some totals do not equal 100 percent.

<u>First Contact</u>	<u>Percent of Respondents</u>
Park ranger or manager	30
Gate attendant	30
Fellow camper	27
Sheriff or police	9
Other	4

Lake Somerville Incident Analysis

40. As previously described, existing incident records at the six study sites were inadequate to perform the required analysis. For this reason, a special effort was made to develop a detailed data base for incidents reported at Lake Somerville.

41. The incidents analyzed within the remainder of this section were collected from special incident reports that were prepared by the Lake Somerville ranger staff. The reports were collected from May 1980 through August 1980. In all, approximately 100 incidents were reported.

Types of reported incidents

42. The incident analysis revealed that not all reported incidents were criminal in nature. In fact, true criminal incidents represented only approximately one fourth (26 percent) of all reported incidents. A categorical description of reported incidents follows:

- a. Traffic. This category consists of all incidents where motor vehicles are involved (except off-road areas), e.g., accidents, speeding, abandoned vehicles, parking, etc.
- b. Criminal. The criminal category includes all traditional crime types with the exception of what might be termed as a "domestic disturbance" in an urban police setting. If a situation was reported as a loud or noisy party but confined within one campsite or related campsites of family or friends, the incident was categorized as a disturbance. If, however, any threatening action was reported, either verbal or physical, then the incident was recorded as a crime under assault or threat.
- c. Disturbance. For purposes of this analysis, disturbance is classified as noncriminal per the definition in b above.

- d. Safety/conservation. This category defines incidents related to the general health and welfare of park visitors or the environment. The category includes such incidents as water-related safety or boating incidents, failure to leash animals, and unauthorized use of off-road vehicles.
- e. Other. The "other" category accounts for such incidents as lost or found property or general information reports.

Distribution of
total incidents by type

43. Figure 2 provides a graphic representation of the distribution of the five categories described above.

44. As can be observed, traffic incidents are the highest in frequency of occurrence (31 percent), followed by criminal (26 percent), safety/conservation (25 percent), disturbance (14 percent), and other (4 percent). Figure 3 charts the time of day distribution for all categories of incidents. It is not surprising that 74 percent of all incidents occur between the hours of noon and midnight. Figure 4 charts the day of the week distribution of all categories of incidents. As with the time of day, the day of week pattern of occurrence is predictable. As shown, 70 percent of all incidents occur between Friday and Sunday.

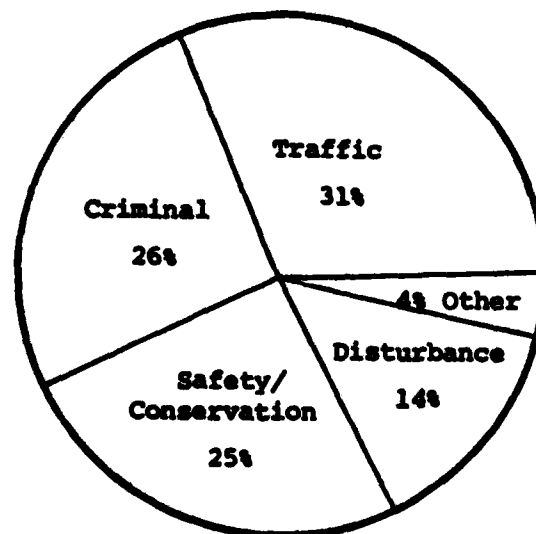


Figure 2. Distribution of total incidents by type

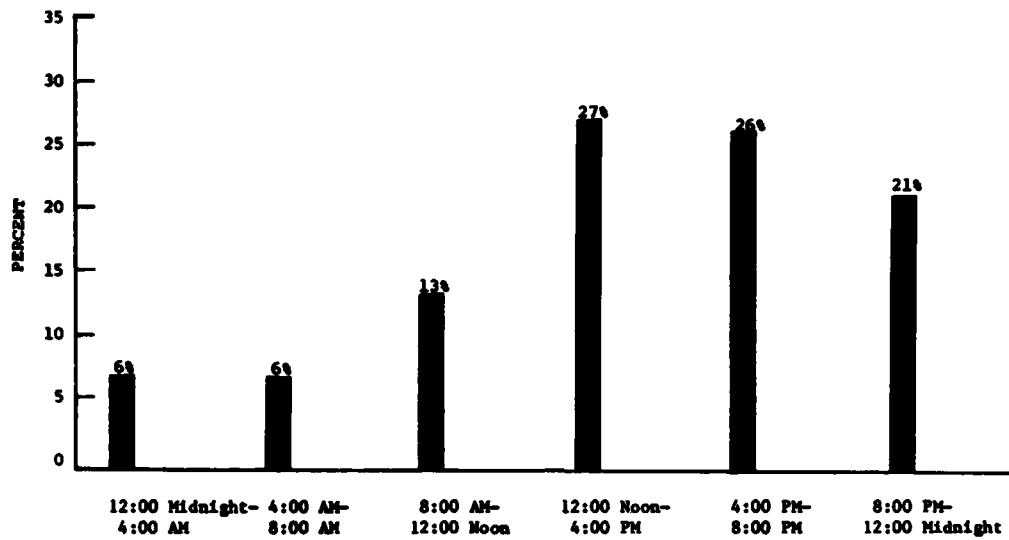


Figure 3. Time of day distribution of total incidents; N = 95

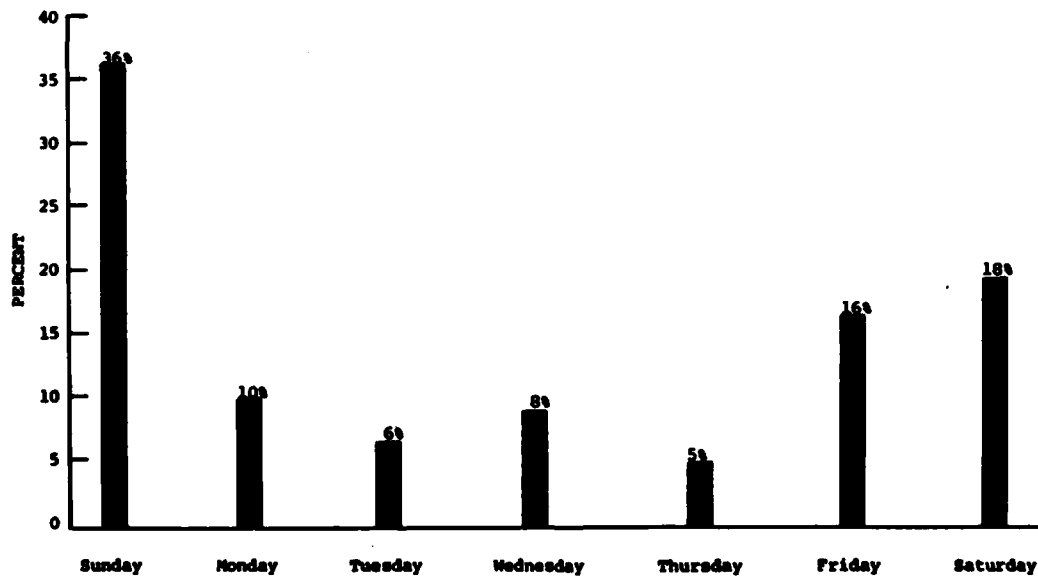


Figure 4. Day of week distribution of total incidents; N = 99

PART III: RECOMMENDATIONS/GUIDELINES

45. The purpose of this section is to review planning and management recommendations related to visitor security and safety. These guidelines and recommendations were developed from numerous site surveys, interviews, reviews of incident reports, and research conducted over a period of over 2 years. While some topics and recommendations are thoroughly reviewed in this section, some planning design and management techniques have only been listed. A more complete description of these techniques is provided in the "Visitor Safety Handbook."*

Incident Reporting System

46. The basic requirement for analysis is data or information. Currently, the Corps must rely upon the "Offense/Incident Report" (Engineer Form 4337) as the primary vehicle of information conveyance. Unfortunately, the present report format does not readily lend itself to the wide range of data elements that should be considered in the formulation of a comprehensive crime/incident data base. There is also little uniformity between the various projects and Districts as to the manner in which the report is completed.

47. The only value of any record or information system lies in its utility in the decisionmaking and planning process. The information developed from incident analysis supports the decisionmaking or planning process in two ways, tactically and strategically. Tactical decisions are action oriented and are made close to the lower levels of decisionmaking, i.e., the project or, sometimes, the District level. Strategic decisions are policy oriented and are made at the Division level or higher.

48. In order to enrich the quality of data, the Corps should

* "Visitor Safety Handbook," Instruction Report R-82-1, prepared by Roy Mann Associates, Inc., and Gage-Babcock & Associates, Inc., for the U. S. Army Engineer Waterways Experiment Station, CE, Vicksburg, Miss.

consider the revision of the incident reporting format. While it is beyond the scope of the current effort to conduct a forms design review, there are certain basic and universal factors that should be included in the incident report form. These factors are outlined below. While considering the factors listed in the tabulation, it is recommended that they be used in conjunction with a "forced-choice" report format. A forced-choice report form is designed to provide for systematic recording of specific data elements according to a series of choices arranged in appropriate categories. Forced-choice incident reports are particularly useful for analysis because they allow for systematic categorization of essential elements. In addition, the form can be structured in such a manner that the person completing the report is guided through the report preparation--he is forced to deal with defined issues needed for analysis and, hence, the planning process. Additionally, the forced-choice report is an ideal instrument for computerization.

Factor	Data Elements
Incident or crime type	Vehicle accident/incident Water-related accident/incident Public safety incident, conservation Crime type: Robbery, larceny-theft, vandalism, rape, assault, murder, etc.
Geographical	Exact location where incident occurred: camping area, campsite number, highway number, direction, closest intersection, etc.
Chronological	Specific time of incident occurrence or, if not possible, blocked time frame, i.e., between the hours of such and such (day or night), day of week, week of year, month of year
Victim or target	Victim person = sex, age, race, etc. Victim knowledge of suspect
Suspect	Name, age, height, race, weight, clothing worn, unusual characteristics

(Continued)

<u>Factor</u>	<u>Data Elements</u>
Property loss	Type of property, make, brand, serial number, model, purpose of property, cost of lost or damaged property
Vehicles/boats	License number, make, model, year, color, type and extent of damage or value if lost

Contract Law Enforcement

49. While the perceptions of both groups involved in contract law enforcement--the Corps and local law enforcement--are generally favorable to the Corps' visitor safety and security program, examination by the project staff revealed a number of shortcomings. The following staff comments are based upon interviews with more than 100 Corps personnel, more than 60 law enforcement agency personnel, and detailed examination of Corps documentation dealing with contract law enforcement at all levels--from the Office, Chief of Engineers (OCE), down to the project.

- a. The concept of contract law enforcement is highly desirable for the Corps as an integral part of a comprehensive visitor safety and security program.
- b. Significant variance was noted in costing and financing law enforcement contract services. The lack of a standard formula for pricing is yet another example of inadequate planning by and training of Corps personnel involved in law enforcement contracting.
- c. The rationale for site selection of the 435 law enforcement contracts entered into in 1978-79 is unclear. No uniformity in selection criteria between Corps Districts was apparent. In addition, there was no indication that crime-related criteria dictated decisionmaking as to which projects entered into law enforcement contracts and which did not. Corps-wide planning or feasibility studies were not conducted to select only those sites where contract law enforcement was projected to be most needed or where the crime problem was highest. Hence, the project staff felt that the contract experience of 1978-79 was significantly diluted in its crime control impact because of lack of application of sound criteria for selecting projects.

- d. Further, this apparant lack of Corps-wide planning contributed to uneven, and perhaps wasteful, costing for contract services; to poor resource allocation of contract law enforcement officers; and to lack of evaluating alternatives to securing greater law enforcement coverage rather than contracting.
- e. The restriction of contract periods to a maximum of 120 days was arbitrary, impractical, and often counter-productive. Peak visitation periods vary significantly among Corps projects and sometimes do not coincide with crime incident patterns. Further, law enforcement agencies have great difficulty in dedicating a trained and equipped officer and police vehicle to a 90- or 120-day contract.

Project staff recommend that:

- a. The Corps immediately conduct a Corps-wide planning/feasibility study to determine (based upon the financial resources available to the Corps) which projects are most in need of contracting. To accomplish this, criteria should be established by which all 450-plus projects will be assessed; not only should the criteria include coverage of Corps recreation areas, but also Civil Works facilities such as powerhouses, navigation locks, project offices, warehouses, and maintenance buildings.
- b. Flexibility in the duration of the contract period be added. As indicated above, the past 120-day limit is unrealistic. The contract period should be based upon the unique needs of projects.
- c. Corps personnel who are to be involved in contract law enforcement programs obtain intensive training (perhaps 2 to 4 days) in law enforcement contracting. Trainees should include appropriate OCE staff as well as involved Corps personnel in each Division and District (including project personnel at sites where contracting has been determined to be feasible). Instructional staff should include law enforcement officials, police consultants and planners, and selected Corps staff (policy, legal, contracts, etc.).
- d. At those projects needing to contract law enforcement, the provider government (usually a county) may consider enacting an ordinance closely paralleling the provisions of Title 36 so that their law enforcement personnel can cite violators under local ordinance in any park area of their jurisdiction. Hence, between the rangers' authority to enforce Title 36 and the contract law enforcement officer's authority to enforce similar provisions (vehicles, vessels, camping, fire and

animal control, etc.) under local law, more effective order, maintenance, and enforcement levels will be achieved.

Project Management

50. The following tabulation lists project management guidelines that promote visitor security and safety.

	<u>Guideline</u>
Administration	Make certain that reports and record keeping provide all vital information needed for analysis and decisionmaking. Anticipate problems before they occur or before they become serious and epidemic. Be innovative and encourage it in others. Maintain accurate cost-accounting practices.
Foresight	Manage visitors' perceptions and motivations. Foresee where friction is likely to develop between visitors. Acknowledge legitimate needs and accomodate them whenever possible and practical. Be predictable. Ensure that all visitors know that Corps rangers are not law enforcement officers.
Interface	Make Corps personnel and visitors mutually accessible. Provide that Corps rangers be constantly visible. Continuously plan and manage the allocation of safety and security resources. Provide communications, e.g., public telephones at recreation areas, radio communication at contact stations.
Control	Control undesirable persons. Prohibit the public consumption of alcohol. Limit the anonymity of visitors.
Liaison	Implement contract law enforcement. Establish a formal liaison program.

Planning and Design

51. The following tabulation lists planning and design guidelines that promote visitor security and safety.

	<u>Guideline</u>
Layout and planning	Avoid designs that foster anonymity. Minimize the potential for overcrowding. Avoid layouts that create confrontations between conflicting recreational goals. Encourage designs that promote a sense of community. Force a definition of purpose in designs and layouts. Include features that encourage attendance by nuclear families.
Access and movement control	Minimize entry/exit points. Control movement. Maximize retreat distances.
Park and unit design	Minimize the opportunities for stealth and concealment. Encourage convenience. Emphasize visibility. Enhance a sense of personal territory. Create a positive atmosphere. Use natural designs. Foster perceptions of security and the presence of authority. Design special protection features for night hours.
Facilities and furnishings	Standardize designs, materials, and dimensions. Minimize the "frustration factor" in designs. Avoid dual-purpose designs. Use vandal- and breakage-resistant designs.

(Continued)

Guideline

Facilities and
furnishings
(continued)

Avoid designs that may motivate theft and vandalism.

Consider ease of maintenance and repair in designs.

Research and Development

52. The first detailed study of the status of visitor protection at Corps water resource development project was authorized by Congress in 1974. Since that time, the Corps has actively pursued the development of basic visitor protection research data and has directed the formulation and implementation of a positive visitor safety and security program. While the Corps' efforts in this area represent a quantum step forward in terms of problem recognition, most of the study efforts conducted to date continue to suffer from a lack of empirical data to support major conclusions. As an example, serious crime is not thought to be a serious problem at water resource projects; however, from a Corps-wide standpoint, it is difficult to substantiate this contention. Similarly, while there is a tendency to downplay less serious incidents, the aggregate effects of petty crime appear to be significant. Again, however, there are insufficient data from which to quantify the problem and formulate an effective response.

53. If future planning efforts are to be based on realistic, practical, and attainable goals, it is necessary that the existing Corps-wide crime/incident data base be expanded in scope. This will entail the development of structured collection and analysis techniques that are compatible with existing recreation and resource management practices. Presented below are specific recommendations intended to delineate the level of involvement the Corps should seek in developing a comprehensive data collection and analysis program:

- a. Redesign incident report forms and data-collection instruments to require a minimum amount of onsite completion time and administrative processing. A multicarboned checklist-styled format similar to those used by State highway patrol and police agencies would appear suitable for this application.

- b. Establish a schedule (by priority) of data-collection requirements. Too frequently, project personnel are inclined to collect information that is most readily available.
- c. Require all projects to periodically (not less than once a month) initiate contact with the records department of local law enforcement agencies to ascertain the type and number of incidents reported outside of Corps channels.
- d. Concurrently, require Districts to conduct periodic courtesy visits on local law enforcement agencies that service Corps facilities to ensure projects have established and are maintaining adequate levels of coordination.
- e. Establish a central repository of recreation area crime/incident data at OCE that can be used to conduct statistical analyses on a Corps-wide basis. Much of the present reporting appears to "deadend" at District and Division level with little or no analyses being performed.

Demonstration Test Sites

54. As many of the visitor/resource protection techniques and concepts which have emerged from this study are relatively new (or at least new in terms of their application in the park and recreation environment), the Corps should initiate a program by which techniques can be applied, monitored, and evaluated. In the original scope of work, a demonstration site was anticipated as a part of this research effort. In the process of identifying a site suitable for evaluation, it became evident that there is no single Corps project representative of all others. While most Corps projects can be profiled by size, facilities, and use, there are invariably unique factors (either internal to the project or external to the region) that tend to individualize a project.

55. In evaluating specific visitor protection techniques, it is important to consider all the factors that influence utility and effectiveness. It is, therefore, a conclusion of this study that the use of a single demonstration site presents a wide variety of biases that in the absence of "evaluation controls" will adversely influence test results. It is for this reason that the Corps is encouraged to extend its demonstration site program to include a minimum of three projects

geographically distributed across the country. The program should further include control sites with similar site characteristics and recreational composition from which to conduct comparative analyses.

56. Selected demonstration site projects should be provided with adequate resources (exclusive of operation and maintenance considerations) in order to ensure the integrity of the evaluation effort. As evidenced at the present demonstration site (Somerville Lake, Texas), the evaluation process can substantially increase monetary and staffing resource requirements beyond that which is typically available at project level. Ideally, the demonstration site aspects of a selected project should be separated from routine resource management functions and an executive oversight committee (preferably at OCE level) should be established to guide implementation and evaluation activities.

In accordance with letter from DAEN-RDC, DAEN-ASI dated 22 July 1977, Subject: Facsimile Catalog Cards for Laboratory Technical Publications, a facsimile catalog card in Library of Congress MARC format is reproduced below.

Jackson, R. Scott

Summary report : Visitor safety and security at Corps of Engineers projects / by R. Scott Jackson (Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station). -- Vicksburg, Miss. : The Station ; Springfield, Va. ; available from NTIS, 1982.

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